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in the following listed application(s) or patent(s) for which the issue fee has been paid.

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(12) **United States Patent**
Murakami et al.

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(54) **SEMICONDUCTOR DEVICE COMPRISING A THIN FILM TRANSISTOR COMPRISING A SEMICONDUCTOR THIN FILM AND METHOD OF MANUFACTURING THE SAME**

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H01L 29/04 (2006.01)
(52) **U.S. Cl.** **257/347; 257/59; 257/72; 257/E29.151**
(58) **Field of Classification Search** **349/38; 257/72, 59, 98, 347, E29.151; 438/149, 479, 438/517**

See application file for complete search history.

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(57) **ABSTRACT**

An object of the present invention is to provide a semiconductor device having high operation characteristic and reliability.

The measures taken are: A pixel capacitor is formed between an electrode comprising anodic capable material over an organic resin film, an anodic oxide film of the electrode and a pixel electrode above. Since the anodic oxide film is anodically oxidized by applied voltage per unit time at 15 V/min, there is no wrap around on the electrode, and film peeling can be prevented.

66 Claims, 33 Drawing Sheets

